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Remarks

Applicant has carefully studied the office action mailed March 10, 2010, and submits the following remarks.

Rejection of claims 86-127 as obvious over Berlowitz, alone, or in combination with Bacha

The examiner rejected new claims 86-127 as obvious over Berlowitz, et al, alone, or in combination with Bacha, et al.

According to the examiner, "the method of the independent claims essentially comprises the step of combusting in the diesel engine a fuel blend comprising an amount of Fischer-Tropsch derived gas oil which is clearly taught by Berlowitz as set forth above." Office action, p. 4. The examiner contends that "[t]he Fischer-Tropsch derived blended fuels of Berlowitz are being used for their known purpose as diesel fuels in compression-ignited (diesel) internal combustion engines."

The examiner admits that "reducing injector fouling and/or engine deposits is not specifically set forth in Berlowitz," but contends that "reduction of particulate matter is briefly discussed in column 7, lines 37-40." The examiner argues that the discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer, and contends that "the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. Citing *In re Best*, 562 F.2d 1252, 1254, 195, USPQ 430, 433 (CCPA 1977).

The examiner asserts that "the combination of familiar elements according to known methods is likely to be obvious when it does nothing more than yield predictable results, citing *KSR Int'l C. v. Teleflex, Inc.*, 550 U.S. 398, 416[, 82 U.S.P.Q.2d 1135] (2007). The examiner contends that the question is whether the improvement is more than a predictable use of prior art elements according to their established functions. According to the examiner, "[i]f a person of skill can implement a predictable variation, § 103 likely bars its patentability," and "if a claim

extends to what is obvious, it is not patentable under § 103.” Citing *KSR*, 550 U.S. at 416; *In re Munchmore*, 8 CCPA 719, 722, 433, F.2d 824, 826 (CCPA 1970). The examiner concludes that Applicant must provide evidence that reduction of injector fouling and/or engine deposits in diesel engines is an unexpected result.

### **Response**

Applicant respectfully requests that the rejection be withdrawn for the following reasons:

**A. The Patent Statute specifies that eligible subject matter includes a new use of a known composition of matter**

The Patent Statute specifically states that processes eligible for patenting include “a new use of a known process, machine, manufacture, composition of matter, or material.” 35 U.S.C. § 100(b).

Even if Berlowitz did describe the composition used in the pending method claims -- which Applicant expressly denies -- Berlowitz would not necessarily prevent Applicants from obtaining a patent on a new method of using the composition. *Perricone v. Medicis Pharm. Corp.*, 77 USPQ2d 1321 (Fed. Cir. 2005). The examiner still would have the burden to establish that Berlowitz discloses “the very same methods.” *Id.* at 1327.<sup>1</sup>

**B. The examiner has not established that Berlowitz discloses “the very same methods”**

The examiner admits that the method limitation of “reducing injector fouling and/or engine deposits is not specifically set forth in Berlowitz.”

The examiner therefore has not established that Berlowitz discloses “the very same methods.” *Perricone*, 77 U.S.P.Q.2d at 1327. The examiner has not met the

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<sup>1</sup> As explained previously, the facts of *Best* and *Atlas* do not relate to the facts of this case. The examiner has not established that the pending method claims are directed to an old composition in terms of a function, property or characteristic of the composition. The examiner has not established that the new method claims are product claims that read on “prior art products [that] are identical or substantially identical, or are produced by identical or substantially identical processes.” *In re Best*, 195 USPQ 430, 433-434 (C.C.P.A. 1977) [Citation omitted]; see *Atlas Powder Co. v. Ireco Inc.*, 51 U.S.P.Q.2d 1943, 1944 (Fed. Cir. 1999). Because of this, *In re Best* and *Atlas Powder* do not apply to the facts of the present case.

flexible TSM test with respect to the pending method claims. *Ortho-McNeil Pharmaceutical, Inc. v. Mylan Laboratories, Inc.*, 86 U.S.P.Q.2d 1196, 1201-02 (Fed. Cir. 2008).

The examiner also has not established that the pending method claims are directed merely to “the **predictable use of prior art elements according to their established functions.**” *KSR Int’l Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d at 1396 (emphasis added). Nor has the examiner established an apparent reason to combine known elements **in the fashion claimed.** *Id.* (emphasis added).<sup>2</sup>

The examiner attempts to overcome this hurdle by arguing that Berlowitz briefly discusses “reduction of particulate matter . . . in column 7, lines 37-40.” Final action, p. 3. However, he foregoing does not meet the examiner’s burden. The examiner has not provided any evidence or technical reasoning to establish that a fuel that *reduces particulate matter in emissions* from a diesel engine also would *reduce the formation of combustion related deposits and/or remove combustion related deposits and/or injector fouling* in a diesel engine.<sup>3</sup>

Even though the “teaching[], suggestion[], or motivation[] need not always be written references,” it is legally insufficient for the examiner to rely solely on **examiner argument** to establish that motivation is “found within the knowledge and creativity of ordinarily skilled artisans.” *KSR Int’l Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d at 1396 (emphasis added), citing *In re Kahn*, 78, USPQ2d 1329 (Fed. Cir. 2006). (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”).

Applicant respectfully requests that the rejection be withdrawn.

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<sup>2</sup> This is particularly true where, as specified in claims 90 and 101, “after three hours’ engine running in the laboratory using the standard diesel fuel [used in the blend], alone, one or more engine nozzles in the diesel engine exhibits a **reduction in the achievable air flow rate of greater than 35%.**” New claims 90 and 101 depend from claims 86 and 97, respectively, which specify that the fuel blend comprises “an amount of 10% w/w or more Fischer-Tropsch derived gas oil,” as in the Examples 1-3. Specification, pp. 20-28. See particularly Tables 1 (p. 26) and Table 2 (p. 28). See also claim 120.

<sup>3</sup> To the extent that the Examiner relies on information that the examiner contends is “well known” as supplying such teaching, Applicant again requests the Examiner to supply a rebuttal affidavit, pursuant to 37 C.F.R. § 1.107 (b), or citations, pursuant to MPEP 706.02(a) and 2144.03.

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**B. The distillate in a diesel fuel normally causes injector fouling**

Applicant does not have the burden to show unexpected results. The burden has not shifted to Applicant because the examiner has not met her burden to establish a case of *prima facie* obviousness, as discussed above. MPEP 2142.<sup>4</sup>

In addition, the distillate in a diesel fuel normally causes injector fouling.<sup>5</sup> The claims are directed to producing the opposite result simply by using a Fischer-Tropsch derived gas oil as the distillate. Even if Applicant were required to provide evidence of unexpected results -- which Applicant denies -- the foregoing would satisfy such a requirement.

Applicant respectfully requests that the rejection be withdrawn and that the claims be allowed.

**C. The Claims DO specify an amount of Fischer-Tropsch derived gas oil:**

The examiner erroneously assumes that "the method of the independent claims essentially comprises the step of combusting in the diesel engine a fuel blend comprising an amount (unspecified) of Fischer-Tropsch derived gas oil, which is clearly taught by Berlowitz." Office action, p. 4.

<sup>4</sup> "The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." MPEP 2142 (emphasis added). If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more, the applicant is entitled to grant of the patent. *In re Oetiker*, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992).

<sup>5</sup> The specification explains that, "[c]ompression-ignition (diesel) engines running on conventional diesel fuels can suffer from the build up of combustion related deposits in their fuel injection systems, in particular in the injector nozzles. This injector fouling can impair engine performance." Specification, p. 1, l. 22-26. The phrase "diesel fuel" typically refers to a distillate fuel blended from a variety of refinery streams to meet desired specifications:

No. 1 diesel fuel (sometimes called super-diesel) is generally made from virgin or hydrocracked stocks having cetane numbers above 45. It . . . has a boiling range of from about 360 °F to 600 °F (182 to 316°C) and is used in high-speed engines in automobiles, trucks, and buses.

No. 2 diesel fuel is very similar to No. 2 fuel oil, and has a wider boiling range than No. 1. It usually contains cracked stocks and may be blended from naphtha, kerosine, and light cracked oils from the coker and the fluid catalytic cracking unit. Limiting specifications are flash point [125 °F (52°C)], sulfur content (0.05% max.), distillation range, cetane number or cetane index (40 min.), percent aromatics, and cloud point.

J. Gary, et al. *Petroleum Refining, Technology and Economics* (4<sup>th</sup> Ed. 2001) 17-18. In order to reduce injector fouling, the specification states that: a. "a detergent-containing additive may be included in the fuel; or b. "the proportion of heavier components in the fuel may be adjusted so as to lower its endpoint." Specification, p. 1, l. 26-p. 2, l. 2.

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In fact, however, the claims do specify an amount of Fischer-Tropsch derived gas oil, as follows:

- a. New claims 86, 99, 112, and 120: 10% w/w or more Fischer-Tropsch derived gas oil;
- b. New claim 113 and 121: 30% w/w or more Fischer-Tropsch derived gas oil.
- c. New claim 87, 100, 122: 50 w/w% or more Fischer-Tropsch derived gas oil;
- d. New claim 88, 101, 123: 70 w/w% or more Fischer-Tropsch derived gas oil;
- e. New claim 89, 102, and 111: 100 w/w% Fischer Tropsch derived gas oil;

New claims 97 and 109 functionally define the amount of Fischer-Tropsch derived gas oil product as an amount effective to produce "a reduced fouling index which is 6% or more lower than the initial fouling index." Claim 110 functionally defines the amount as that effective to produce a "reduced fouling index is 9% or more lower than the first fouling index."

Applicant respectfully submits that the rejection is based on an erroneous assumption, and requests that the rejection be withdrawn for this additional reason.

#### CONCLUSION

For the foregoing reasons, Applicant respectfully requests reconsideration and allowance of all of the pending claims. The Commissioner is hereby authorized to charge any fee in connection with this paper to Deposit Account No. 19-1800 (File no. TS7607), maintained by Shell Oil Company

Respectfully submitted,

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